

- [002] This application claims priority from German Application Serial No. 103 14 324.6 filed March 28, 2003.
- [003] FIELD OF THE INVENTION
- [004] According to the preamble of claim 1, ~~t~~The invention concerns a hydrodynamic converter with a primary clutch for the power train of a motor vehicle, particularly of a working machine, such as of a wheel loader; of a lift truck; or of a dumper.
- [005] BACKGROUND OF THE INVENTION
- [013] Converters are known from the prior art which comprise one converter lock-up clutch and one primary clutch, said primary clutch-(PK) being inserted between engine and converter and the lock-up clutch between engine and transmission.
- [017] Said problem is solved by the features of Claim 1. Other developments and advantages result from the sub-claims.
- [018] SUMMARY OF THE INVENTION
- [022] BRIEF DESCRIPTION OF THE DRAWINGS
- [023] The invention is explained in detail herebelow will now be described, by way of example, with reference to the enclosed figures accompanying drawings in which show:
- [031] DETAILED DESCRIPTION OF THE INVENTION

1-16. (CANCELED)

17. (NEW) A hydrodynamic converter for a power train of a motor vehicle comprising one pump (2), one turbine (3) connected with a transmission input shaft (4) and one stator (guide wheel) (5), in which said pump (2) is detachably connectable via a primary clutch (PK) with an input (6) of an engine, wherein said primary clutch (PK) is situated in the transmission (G).

18. (NEW) The hydrodynamic converter according to claim 17, wherein said primary clutch (PK) connects the input (6) of said engine with a hub (8) of said pump (2) via a converter shell (7).

19. (NEW) The hydrodynamic converter according to claim 17, wherein an outer disc carrier of said primary clutch (PK) is connected with a converter shell (7) and an inner carrier of said primary clutch (PK) is connected with a pump hub (8).

20. (NEW) The hydrodynamic converter according to claim 17, wherein said primary clutch (PK) is sealed relative to oil of said converter (1), is lubricated and cooled by transmission oil and is closed with transmission system pressure, the pressure being regulated by one of with or without a pressure ramp independently of the converter pressure.

21. (NEW) The hydrodynamic converter according to claim 17, wherein said primary clutch (PK) is flowed through by converter oil and closed with transmission system pressure.

22. (NEW) The hydrodynamic converter according to claim 21, wherein a gap between a pump hub (8) and a guide wheel shaft (9) is sealed so that the oil can be fed to an inner disc carrier of said primary clutch (PK), said inner disc carrier having apertures (10) in a manner such that the oil arrives at discs through said apertures (10), grooves being provided in a friction lining which outwardly convey the oil and the oil flowing axially to said converter (1) into the gap between the pump hub (8) and a converter shell (7) and via holes in the gap between the pump hub (8) and the guide wheel shaft (9).

23. (NEW) The hydrodynamic converter according to claim 17, wherein said primary clutch (PK) can be closed with a spring force and opened with pressure, said pressure being regulatable with or without a pressure ramp.

24. (NEW) The hydrodynamic converter according to claim 23, wherein said primary clutch (PK) has a baffle plate (16) so as to achieve a rotation-pressure compensation.

25. (NEW) The hydrodynamic converter according to claim 17, wherein said primary clutch (PK) is actuatable by a converter pressure and converter oil flows therethrough.

26. (NEW) The hydrodynamic converter according to claim 25, wherein said primary clutch (PK) can be closed by lowering the pressure behind a piston (11) of said primary clutch (PK).

27. (NEW) The hydrodynamic converter according to claim 25, wherein said primary clutch (PK) can be closed by means of a force of a spring (12), said piston (11) being movable by the converter pressure against said spring (12) by lowering the pressure behind said piston (11) so that said primary clutch (PK) opens.

28. (NEW) The hydrodynamic converter according to claim 21, wherein for exact regulation of torque of said primary clutch (PK), a converter pressure can be measured for determining a clutch actuation pressure via a return of the pressure to the control valve or by means of a pressure sensor.

29. (NEW) The hydrodynamic converter according to claim 17, wherein a toothed wheel, mounted upon the outer border of said primary clutch (PK), can be used for driving at least one of accessory units, PTO's direct engine-driven gears and to caliper the engine rotational speed.

30. (NEW) The hydrodynamic converter according to claim 17, wherein said primary clutch comprises one pressure sensor (14) for detecting at least one of a piston pressure and one rotational speed sensor (15) for detecting the pump rotational speed.

31. (NEW) The hydrodynamic converter according to claim 17, further comprising one converter lock-up clutch (WK).

32. (NEW) The hydrodynamic converter according to claim 17, wherein said primary clutch is mounted in said transmission (G) so that a converter can be subsequently inserted.